Reconstruction of volcanic processes in the Komárov Complex: case from the Zaječov volcanic centre

Summary
Sheet lava flows with pillow breccias and hyaloclastites are interbedded agglomerate and volcaniclastics. This is the basic interpretation of rocks exposed in quarry near the town Zaječov. Rocks are part of geological area called Barrandien.
Resediment volcaniclastic particles were transfer by sediment gravity flows. Agglomerates were deposited from volcaniclastic debris flow and fine grain volcanoclastics sediments from turbidity currents or hyperconcentrated flows. These types of flows named as eruption-fed aqueous density current are directly initiated by subaqueous volcanic eruption.
One volcaniclastics strata set on the south wall of quarry was formed from subaquatic eruption plume, called steam copula. Steam copula created under the eruptive vent is water exclusion zone. Accretion lapilli can be formed in this zone if the copula is stable for a longer time. Accretion lapilli were generally considered to be able to form only in subaerial conditions, during the phreatomagmatic eruption till lately.
Rocks exposed in quarry were probably formed during the Surtseyan eruption in shallow subaqueous setting.
According to thin section lava flows are containing pseudomorphosis phenocrysts of olivine and feldspar. The olivine is typical mineral for basic rocks like basalts, not for acid rocks. This results is discordant with chemical analyzes. Rocks underwent secondary processes, like carbonatization, chloritization, etc., which influence contents of elements in rocks.
Seven samples of rocks were taken from active quarry. These samples were analyzed on contents of major elements and trace elements. Two of these samples were unavailable, one of them was influence by strong carbonatization, second of them was sandstone. Remaining samples were designated, the older ones as trachyandezite and the younger ones as trachyt/trachydacit. The change in chemical contents is typical for one magmatic chamber and process fractionation in it.
Tectonic position of volcanism don´t has one clear resolution. Diagrams created according to results from chemical analyzes were not convincing.